

CLAIMS

1. A method for dewatering and washing a lime mud (106) before dewatered lime mud is transported to a lime mud kiln (200) **characterised in**
 - 5 – that the dewatering of the lime mud takes place in a pressurised filter (102),
 - that the pressurised filter (102) is connected to a closed gas circulation system (101),
 - that a filtrate tank (108) is connected to the filtrate side of the filter and
10 where a fluid level of filtrate (109) is established from the pressurised filter (102),
 - that the pressurised filter (102) is pressurised in that a compressor (111) on its suction side draws gas phase from the filtrate tank (108) and pressurises the filter (102) on the pressurised side of the compressor, on
15 the lime mud side of the filter,
 - that a certain pre-determined amount of gas phase is vented from the gas circulation system (101),
 - and that an equivalent pre-determined amount of fresh air is added to the recycled gas phase with the aim of maintaining the partial pressure
20 of oxygen gas above a pre-determined minimum level.
2. The method according to claim 1, **characterised in** that the temperature in the pressurised filter (102), including the temperature of the recycled gas phase, is maintained above 75°C, preferably 75-95°C.
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3. The method according to either claim 1 or 2, **characterised in** that the amount of residual white liquor in the lime mud (106) does not exceed 10%, preferably under 5%, of the white liquor that is formed in the previous causticization.
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4. The method according to any one of claims 1-3, **characterised in** that the lime mud that has been filtered out from the lime mud is dry-fed out from the disc filter for onwards transport to the lime mud kiln (200).

- 5 5. The method according to any one of claims 1-4, **characterised in** that de-airing of the recycled gas phase is carried out on the pressurised side (p) of the compressor via a de-airing device (113a), and in that addition of fresh air is carried out by an air-supply device (112a) connected to the suction side (s) of the compressor.
- 10 6. The method according to any one of claims 1-4, **characterised in** that de-airing of recycled gas phase is carried out on the suction side (s) of the compressor at a first distance from the inlet to the compressor via a de-airing device (113a), and in that addition of fresh air is carried out through an air-supply device (112a) on the suction side (s) of the compressor at a second distance from the inlet to the compressor, where the first distance is greater than the second distance.
- 15 7. The method according to any one of the preceding claims, **characterised in** that the amount of recirculated gas phase that is exchanged lies within the interval 5-20%, preferably less than 10%.
- 20 8. The method according to any one of the preceding claims, **characterised in** that the amount of recirculated gas phase that is exchanged is regulated such that it depends on a detected process parameter.
- 25 9. The method according to claim 8, **characterised in** that the detected process parameter is the partial pressure of oxygen gas in the filter.
10. The method according to claim 8, **characterised in** that the detected process parameter is the rate of flow of lime mud or dewatered lime mud, or parameters that are representative of these rates of flow.
- 30 11. The method according to any one of the preceding claims, **characterised in** that the pressurised filter is of the disc filter type.

12. An arrangement for washing and dewatering a lime mud before dewatered lime mud is transported to a lime mud kiln (200) **characterised in**

- that the dewatering of the lime mud takes place in a pressurised filter (102),
- 5 – that a recirculation line 110 is arranged for gas phase from the filtrate side to the mud side,
- that the pressurised filter (102) is connected to a gas circulation system (101) that is essentially closed,
- that a filtrate tank (108) is connected to the filtrate side of the filter and
10 where a fluid level of filtrate (109) is established from the pressurised filter (102) ,
- that the pressurised filter (102) is pressurised in that a compressor (111) on its suction side draws gas phase from the filtrate tank (108) and pressurises the filter (102) on the pressurised side of the compressor, on
15 the lime mud side of the filter,
- that a certain pre-determined amount of gas phase is vented from the gas circulation system (101), through de-airing devices (113a)
- and that an equivalent pre-determined amount of fresh air is added through air-supply devices (112a) to the recycled gas phase with the aim
20 of maintaining the partial pressure of oxygen gas above a pre-determined minimum level.

13. The arrangement according to claim 12, **characterised in** that the de-airing device (113a) is arranged at a position on the pressurised side (p) of the
25 compressor, and in that the air-supply device (112a) is arranged at a position on the suction side (s) of the compressor.

14. The arrangement according to claim 12, **characterised in** that the de-airing device (113a) is arranged at a position on the suction side (s) of the
30 compressor at a first distance from the compressor (111), and in that the air-supply device (112a) is arranged at a position on the suction side (s) of the compressor at a second distance from the compressor (111), where the first distance is greater than the second distance.

15. The arrangement according to any one of claims 12-14, **characterised in** that a control unit (140) controls the regulator valves (112), (113), (160) for at least one of de-airing and addition of air.

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16. The arrangement according to claim 15, **characterised in** that the control unit 140 receives input signals from sensors 150.

17. The arrangement according to any one of claims 12-16, **characterised in** that the pressurised filter (102) is of the disc filter type.

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